VOLUME 86, ISSUE 3, MARCH 2025 SERVING NATURE & YOU CONSERVATIONST





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Pawpaw tree bloom

MISSOURI CONSERVATIONIST



ON THE COVER

A three-toed box turtle searches for food.

NOPPADOL PAOTHONG

180mm lens, f/6.3 1/100 sec, ISO 800

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STAFF WRITERS

Kristie Hilgedick, Joe Jerek, Dianne Van Dien

DESIGNERS

Kate Morrow, Marci Porter

PHOTOGRAPHERS

Noppadol Paothong, David Stonner

CIRCULATION

Marcia Hale

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Inbox



Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email Magazine@mdc.mo.gov or write to us:

MISSOURI CONSERVATIONIST PO BOX 180 JEFFERSON CITY, MO 65102

BASKING BOBCAT

The picture on the back cover of the January issue of a bobcat basking in a sunbeam is inspiring. Thanks to the photographer, Noppadol Paothong, for sharing the image.

Marty Poleski Twin Oaks

FASCINATING PROFILES

I like to read about the fascinating jobs people have at the Missouri Department of Conservation. Reading about what Janet Haslerig does as an avian ecologist was fascinating [Nature Lab at Work, December, Page 4]. Thank you for deepening our understanding of how our resources are protected by knowledgeable professionals.

DeAnne Brown via email



NATURE'S MONETARY RIPPLES

Thank you for Nature's Monetary Ripples [Nature Lab, January, Page 4]. It really shows that outdoor sports not only brings families together, but creates jobs and income for families and our state.

I have read the *Missouri Conservationist* over my entire lifetime and each year it keeps getting better.

I recently retired from Bass Pro in St. Charles after 23 wonderful years. I miss seeing the kids' excitement when they get their first rod and reel or hunting firearm.

My dad taught me the correct way to hunt and fish; I taught my son and daughter; they have continued the tradition with their children. The time together in the outdoors with your family are memories forever. Thank you for your great magazine.

Jan Keithly Wentzville

CLARIFICATION

The picture, to the left, of an experienced kayaker navigating between large gaps within the ice on the Missouri River was published on the back cover of the February issue of the Missouri Conservationist. Please be advised should you choose to kayak on the Missouri River — or any body of water — during extreme weather conditions, take all necessary safety precautions. Those include, but are not limited to, wearing a properly fitted life jacket, knowing the water temperature before you go out, and being prepared if your kayak capsizes. For more information, visit short.mdc.mo.gov/4Vk.

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Conservation Headquarters

573-751-4115 PO Box 180 Jefferson City, MO 65102-0180

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Have a Question for a Commissioner?

Send a note using our online contact form at mdc.mo.gov/commissioners.

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The Missouri Department of Conservation protects and manages the fish, forest, and wildlife of the state. We facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.

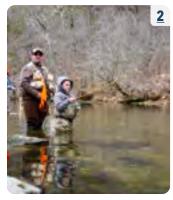


Want to see your photos in the Missouri Conservationist?

Share your photos on Flickr at flickr.com/groups/mdcreaderphotos-2025 or email Readerphoto@mdc.mo.gov.



- 1 | Elk in fog by Anita G. Kensler, via website submission
- 2 | Montauk State Park trout opener by Jackson Wayne Sherwood, via website submission
- 3 | Red-eared sliders basking by Michael Woods via Flickr







Want another chance to see your photos in the magazine?

In the December issue, we plan to feature even more great reader photos. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.



iront

O Whether it's the opening whistle, starter pistol, or even a cannon, March 1 signals the opening of the trout catchand-keep season. Like dove season in the fall, this signifies the unofficial start to spring. It often feels like a time of optimism as we anticipate the reawakening of spring peepers and many other signs of spring (see Nature Comes Alive, Page 22).

The opening of trout season is also an amazing social event with many stories of multiple generations sharing these special places. I grew up close enough to Bennett Spring that we could be up early enough to make the short drive in time for the opening whistle. These experiences at the four trout parks are the result of our partnership with Missouri State Parks and The James Foundation. They are also the result of the dedication of our cold-water hatchery staff that work 365 days a year raising more than a million trout.

There are many more unique trout fishing opportunities available across southern Missouri. So, I encourage you to visit a trout park or go find a unique stream in pursuit of trout this spring (see The Slams, Page 10).

JASON SUMNERS, DIRECTOR JASON.SUMNERS@MDC.MO.GOV

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Nature LAB

MDC uses research to improve fish, forest, and wildlife management

FISHERIES MANAGEMENT

Creating the Right Conditions for Spawning

MDC and U.S. Army Corps of Engineers partner to help endangered lake sturgeon

by Dianne Van Dien

② In April 2015, lake sturgeon recovery in Missouri reached a milestone: the first confirmation of spawning in the state. Overharvest and habitat changes had caused lake sturgeon numbers to plummet by the early 20th century. To help bolster the population, MDC began stocking fingerlings in 1984.

Because female lake sturgeon don't lay eggs until they are 20–30 years old, "the spawning activity we are seeing now is happening because fish that were stocked in the '80s are now becoming sexually mature," explains Fisheries Biologist Annie Hentschke.

When it's time to release and fertilize eggs, lake sturgeon gather, but they won't do this just anywhere. "To spawn," Fisheries Biologist Travis Moore says, "they need to have fast water. They need to have a rocky substrate."

The spawning area found in 2015 is on the Mississippi River north of St. Louis. "There are boulders



Lake sturgeon can grow up to 8 feet, weigh up to 300 pounds, and live up to 150 years. Due to population declines from habitat changes and overharvest, the species was listed as state endangered in 1974.

and cobble all along that bank," Fisheries Biologist Sarah Peper points out. The bank is below the Melvin Price Lock and Dam, which has a series of gates that can be opened and closed to regulate water flow and is operated by the U.S. Army Corps of Engineers.

"It appears in 2015 that they just happened to have the right gates open, making it the right kind of water flow over the right kind of habitat," Peper says.

Five years went by with no further spawning. In 2020, MDC and the Corps began partnering to reproduce the conditions of 2015. Through a grant, the Corps funded telemetry to track fish movements and a hydraulic model to study how to tweak the dam's water flow to favor sturgeon spawning. In 2022 they tested their protocol.

"The fish spawned the first year we tried it," reports Peper. "We've done it three years and they've spawned all three years."

The Corps is now evaluating more dams on the Mississippi to see which have appropriate habitat and to figure out the right flow protocol for those areas.

Creating and protecting spawning habitat is just the first step. Scientists will next investigate how well the young lake sturgeon survive after hatching.

At a Glance

Spawning Statistics

Lake sturgeon spawning frequency:

- Females every 3-5 years
- Males every 1-3 years

Number of eggs per female: up to 500,000 per spawning interval

- Eggs can comprise 15-40% of a female's body weight.
- Eggs stick to rocks in the spawning area and hatch in 7-10 days.



HOW YOU CAN HELP:

Report possible lake sturgeon spawning activity to your regional MDC office.

- Spawning can occur late March through May. Look for large fish thrashing around in rocky waters.
- Potential locations include the Mississippi and Missouri rivers and their tributaries.

In Brief

MDC REPORTS DEER HARVEST

IN OVERALL NUMBERS

→ The 2024-2025 deer hunting season ended Jan. 15 with a preliminary total deer harvest for the season of 276,262. Of the deer harvested, 129,252 were antlered bucks, 23,842 were button bucks, and 123,168 were does. Top harvest counties for the overall deer season were Franklin with 6,208, Jefferson with 4,900, and Macon with 4,495.

Deer hunting ended with the close of the archery season. Preliminary data from MDC showed that hunters checked 56,347 deer during the 2024-2025 archery deer season. Top counties for the archery deer season were Jefferson with 1,579, Franklin with 1,216, and St. Louis with 994. This year's archery deer harvest total was slightly higher (1 percent) than last year's total of 55,731.

According to MDC Cervid Program Supervisor Jason Isabelle, the overall drop in harvest this year was due to a combination of factors including a week-later start to the November portion of firearms deer season and a bumper acorn crop.

For deer harvest totals by season, county, and type of deer, visit short.mdc.mo.gov/Z3g. For deer harvest summaries from past years, visit short.mdc.mo.gov/4ZM.

Four non-fatal, self-inflicted firearms-related hunter incidents and three non-fatal, shootervictim incidents were reported for the season.



NEW MDC HUNTING AND FISHING BOOKLETS AVAILABLE.

Missouri hunters, trappers, anglers, and others can get free copies of MDC's updated booklets on spring turkey hunting, hunting and trapping, and fishing starting in early March at MDC regional offices, MDC nature centers, and other places where permits are sold. The handy booklets have information on related permits, seasons, species, regulations, limits, conservation areas, sunrise and sunset tables, and more. Get booklet information online at **mdc.mo.gov** using the search tool at the top of the homepage.







Find updated 2025 booklets at MDC regional offices, MDC nature centers, and other places where permits are sold.



Ask MDC

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov or call 573-522-4115, ext. 3848.

Q: Around sunset near Cedar Hill, I witnessed the largest swarm of birds I have ever seen. Thousands upon thousands of small birds were flying overhead, heading west, for at least 30 to 45 minutes. Where did they all come from and where are they going?

It's possible you saw a large winter foraging flock of American robins, with other species mixed in as well. In the winter or non-breeding season in Missouri, robins and other species of birds — like European starlings or common grackles — are more gregarious than during the summer breeding season. They will group together in large foraging flocks in search of food, often berries. These flocks can number in the hundreds.

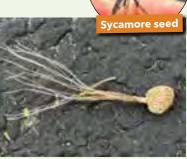
Robins also form communal roosts, which can be even larger — thousands, sometimes hundreds of thousands, of birds. Favored roosting sites might be stands of eastern red cedars and vine-tangled woodlands that offer respite from wind and precipitation. These roosts can shift depending on weather patterns and when nearby resources (berries) are depleted. In spring, robins and other species will migrate north to their breeding grounds in the U.S. or Canada and disperse

into smaller flocks or nesting pairs. Likely, a large roost exists near where you live.

Q: I am fascinated by the trees and wildflowers along the trails at Smithville Lake. A stunning, enormous sycamore tree there never disappoints. On one of our walks, I picked up an odd-looking item. A spent seed pod, perhaps?

Yes, this is the remains of a sycamore seed pod. Members of the plane tree family (*Platanus*), these trees form fruit from September through October, and the fruit persist throughout the winter. Each fruit is solitary, round, dry, 1-1½ inches in diameter, and found on a short drooping stalk. Each ball is composed of numerous closely packed,

long, narrow fruits called "achenes." Each achene contains a single seed.



CAMORE SEED; LISA SALA; GRAPEVINE EPIMENIS: JOHN CLEMENT



Q: What species is this?

This is a grapevine epimenis (Psychomorpha epimenis).

This woodland moth's body and wings are black with a large white patch and some inconspicuous metallic shading on the forewings and red patches on the hindwings. They are often mistaken for

butterflies because they are day fliers and colorful, but they are moths. As larvae, they feed on native grapevine and Virginia creeper leaves and adults drink nectar from early spring flowering shrubs and trees. They have a single brood in early spring and are mostly seen in March.

What IS it?

Can you guess this month's natural wonder?

The answer is on Page 9.





Sierra Page CASS COUNTY CONSERVATION AGENT offers this month's

AGENT ADVICE

Paddlefish season opens on March 15. This ancient species — Missouri's official state aquatic animal — can grow 7 feet and weigh more than 100 pounds. Before you head for the water, be sure you know the regulations. You must have a fishing permit, unless exempt. The daily limit is two paddlefish, and the possession limit is four. Length limits must be observed. A legal paddlefish is 32 inches from the eye to the fork of the tail. If you are on Truman Lake, Lake of the Ozarks, or Table Rock Lake, that length increases to 34 inches. If you are using a boat, follow proper boating safety measures. For more information, consult A Summary of Missouri Fishing Regulations available at short.mdc.mo.gov/4H9.

WE ARE CONSERVATION

Spotlight on people and partners

by Emily Franklin

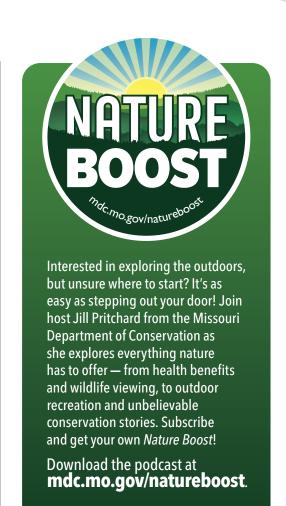


What's your conservation superpower?

MONASP STATE TOURNAMENT

Get ready for another exciting year of archery competition and fun at the 2025 Missouri National Archery in the Schools Program (MoNASP) State Archery Tournament, March 19–22 at the Branson Convention Center on the Landing in Branson. Event organizers expect 3,900 students to participate in the bull's-eye event and 1,800 in the 3-D competition. Get more information and tournament details at **short.mdc.mo.gov/4Hm**.





WHATISIT? **CENTRAL NEWT**

A small, olive-brown salamander with black spots, the central newt lives in and around woodland ponds and swamps. It is the state's only newt. They have a complex, four-stage life cycle - egg, aquatic larva, terrestrial juvenile (or landdwelling eft), and aquatic adult. As adults, they are active day or night and may be seen as they swim near the surface, coming up for air. Newts remain active throughout the year, even swimming under ice.





FISHING CHALLENGES LEAD ANGLERS TO HIDDEN GEMS

by Brent Frazee photographs by Noppadol Paothong

When Cody Diehl heard about the two marathon fishing challenges offered by MDC, he knew he was up to the task.

Unlike your typical fishing tournaments, there are no standings associated with these fishing challenges. Rather MDC and its partners, the MOKAN chapter of Trout Unlimited and the Missouri Smallmouth Alliance, cast out a challenge in the form of two "slams." The challenge — see if you can complete the fishing marathons.

Each slam is a daunting test, to be sure.

To capture a gold medal in the Blue Ribbon Trout Slam, an angler has to catch at least one trout of any size in each of the nine Blue Ribbon trout streams that support naturally reproducing populations.

To go for the gold in the Smallmouth Slam, an angler has to land a bronzeback in each of the 12 streams and rivers designated by MDC as special management areas.

Diehl, an avid fisherman and a conservation educator and fisheries technician for MDC, was one of many who accepted the challenge.

"This was perfect for me," said Diehl, 28, who lives in St. Peters. "I'll do what I call a 'suffer fest.' I'll sit on the bank of a lake or river and stay there all day and night waiting for the fish to bite. I love to fish, and I love a good challenge."

Today, Diehl is one of a few who has completed both slams and has the gold medals to prove it.

In the process, he got a memorable tour of some of Missouri's most beautiful streams. many of which he never knew existed before taking part in the slams.

"Fishing at some of these streams, I really got the feeling of 'I am alone," Diehl said. "I love long hikes and putting in work to catch fish.

"I found in some of these places, I had to walk at least a mile past any other people I would see to stand a good chance of catching fish. But it was worth it. I have some great memories of taking part in these slams."





because you're trying to imitate natural food for the fish. When you fool a wild fish on something you've tied, there's a sense of accomplishment."

- ED HEIST

A Tour of Special Places

Off the beaten track. Breathtaking. Hidden gems. Unspoiled.

All have been used to describe the special qualities of the streams on the Trout and Smallmouth Slams.

These aren't tourist attractions, where you encounter full parking lots and dozens of anglers in boats and on the bank. These are wild areas, the type of waters often so secluded that you have to use GPS to get to an access point.

Stretches of the streams are open to public fishing, though participants have to be careful not to trespass on the parts that are private and off-limits. That's one aspect that makes the slams challenging. Another, especially on the trout side, is that you are dealing with wild fish. Forget the hatchery-raised trout you fish for at Missouri's trout parks. The wild fish are wary and have fine-tuned senses.

"Most of the wild trout you catch are smaller than 8 inches," said Ed Heist, a professor at Southern Illinois University and an avid fly-fisherman who completed both slams. "The real challenge is that they are very skittish and will take off at the slightest sign of movement.

"You have to use stealth and present something that looks natural to them before they are aware that you are there."

Heist completed the Trout Slam twice — first as part of a research project to determine the genetic origins of Missouri trout, the second as purely a passionate fly-fisherman.

Heist used a fly rod to accomplish that goal. For the trout, he often used a dry fly with a tiny No. 20 midge on a dropper.

For the smallmouth, he used a Clouser Minnow fly for mid-range fish and a fly with a unique name, Meat Whistle, for smallmouth holding in deeper water.

"I love fly-fishing because you're trying to imitate natural food for the fish," Heist said. "When you fool a wild fish on something you've tied, there's a sense of accomplishment."

Life-Changing Fishing

There was an extra sense of accomplishment for Diehl. He terms fishing as his "lifesaver." And he's not exaggerating.

Not long ago, his life was in a valley. After years of playing in a rock group, he turned to the party scene and became addicted to alcohol.

"During those times when I was struggling, I would go fish because it was the only thing that brought me peace," Diehl said.

After he lost his place in the band because he wasn't well enough to go on tour or attend practices, Diehl went to a rehab facility. There, he used fishing at a pond on the grounds as part of his therapy.

With nowhere else to turn, he concentrated on his fishing. He returned to school and studied fish and wildlife management.

That eventually led to a job with MDC as a conservation educator and fisheries technician in the St. Louis area. His message to those he meets — fishing can be more than just a casual pastime. It can be a lifeline during difficult times.

Tackling the Trout and Smallmouth Slams certainly added purpose to Diehl's life. He turned 2022 into one giant fishing trip. When he wasn't working, he was on the road fishing.

He started the Trout Slam on Jan. 23, 2022 and was done by April 2. That same year, he started the Smallmouth Slam in March and completed it Aug. 21.

"When I got started, I would go to a stream, catch a fish, then drive to the next one," he said. "The most I did

> was three (streams) in a day."

He kept records to illustrate his quest. For the Trout Slam, he drove 1,819 miles and spent 31.5 hours travelling. He spent 18 hours on the water and 28 miles hiking to preferred holes. He didn't keep as detailed records for the Smallmouth Slam, but he esti-



mates they would be similar to the trout quest.

One constant — he waded in most spots, used spinning gear and used one lure, a Joe's Fly inline spinner.

"I watched a guy catch fish on that lure one day on a lake in St. Louis when no one else was catching fish," he said. "I went out and bought some, and now it's my favorite bait."



WHAT:

The Blue Ribbon Trout Slam and the Smallmouth Slam were established by MDC and its nonprofit partners, Trout Unlimited and the Missouri Smallmouth Alliance.

GOAL:

Generate excitement and a sense of adventure in fishing the state's hidden gems, the small streams and rivers that often go unnoticed.

HOW THEY WORK:

Anglers travel to the waters on each list with a simple mission — to catch one trout or smallmouth of any size, record it, fill out an entry form online, and submit it.

RULES:

Regulations for each body of water apply.

RECOGNITION:

Anglers receive three levels of awards as they catch fish from areas in the challenges including a certificate and pin.

BLUE RIBBON	SMALLMOUTH
TROUT SLAM:	SLAM:
BRONZE	BRONZE
5/9 areas	6/12 areas
SILVER 7/9 areas	SILVER 9/12 areas
GOLD	GOLD
9/9 areas	12/12 areas



Blue Ribbon Trout Slam, he was on an emotional mission. He used a fly rod that was gifted to his father, who passed away before he was able to use it.

"I decided I would carry on the torch for him," said Guerich, of Desloge. "We fished together for many years, and he talked about getting into fly-fishing.

"His friend gave him a nice fly rod and reel, but he was too sick to use it."

When Guerich inherited it, he made sure it was put to good use. He learned to fly-fish with the outfit, then he set out on the Trout Slam. He made sure he was fishing on Sundays, a special day for father and son.

"That was always dad's day," said Guerich, who is an IT systems administrator. "That day was always reserved for fishing with dad."

Living in southeast Missouri, he was able to knock off many of the close-tohome streams and rivers on the list.

lenges along the way. He had to fish the North Fork of the White River three times before he finally caught a trout. And he had to figure out ways to catch wary rainbows in little streams such as Barren Fork, Blue Springs, the Little Piney, and Crane Creek.

At each stop, he would take a picture of the fish he caught and release it.

Once the Trout Slam was finished. he moved onto the Smallmouth Slam. Again, using his special fly rod, he caught and released an 18-inch bronzeback on the Current River and a 16-inch fish on the Big River.

But there were some frustrating days as well. He had to visit Mineral Fork Creek seven times before he could catch a smallmouth.

Nonetheless, he completed his quest and dedicated it to his late father.

"I felt like he was with me," Guerich said. "He would have loved this."



Mark Guerich (shown here) passed down a love of fishing and a special fly rod to his son Adam when he died in 2019. Adam used that fly rod to complete the Trout Slam and the Smallmouth Slam in remembrance of his father.

"This isn't about catching the biggest fish. They all count."

— ANDREW BRANSON



Mission Accomplished

The Trout Slam started in 2020 after a member of the MOKAN chapter of Trout Unlimited approached MDC and suggested that the agency establish a program similar to what other states had. Fisheries officials agreed and opted to co-sponsor the slam with the nonprofit conservation group.

Some voiced concern that the small blue-ribbon streams on the list would be adversely affected, but MDC biologists decided the strict regulations already in place would protect the waters.

Several years later, officials are overwhelmed with the response from the two slams.

"They generated a lot of excitement from the start," said Andrew Branson, MDC fisheries program supervisor who oversees the slams. "We started getting comments like 'These slams are getting me back into fishing again,' and 'I'm fishing streams I never knew existed.'

"But the best ones are the people who say, 'I've never been so excited to catch a 5-inch fish.' This isn't about catching the biggest fish. They all count."

For more information about the Blue Ribbon Trout Slam or the Smallmouth Slam, visit mdc.mo.gov/fishing/trophies-certificates. ▲

Brent Frazee is an award-winning writer and photographer who was the outdoors editor of The Kansas City Star for 36 years before retiring in 2016. He continues to freelance for magazines, newspapers, and websites. He lives in Parkville with his wife Jana and two yellow labs, Millie and Maggie.

BLUE RIBBON TROUT SLAM WATERS:

- Barren Fork Creek County Road A-D to Sinking Creek
- Blue Springs Creek
 In Crawford County
 from Blue Springs to the
 Meramec River
- Crane Creek
 In Stone and Lawrence
 counties upstream from
 Quail Spur Crossing on
 Stone County Road 13-195
- Current River River and its tributaries from lower boundary of Montauk State Park to Cedar Grove Bridge
- Eleven Point River Oregon County From Greer Spring Branch to Turner Mill

- Little Piney Creek From the Phelps County line in sections 9 and 16 of T35N, R8W, including Piney Spring Branch and Lane Spring Branch to Milldam Hollow Access
- Mill Creek
 Phelps County from Yelton
 Spring to Little Piney
 Creek, including Wilkins
 Spring and Spring Branch
- North Fork of the White River Upper outlet of Rainbow Spring to Patrick Bridge
- Spring Creek
 From private land
 boundary approximately 3
 miles downstream of Relfe
 Spring to its junction with
 Big Piney River

SMALLMOUTH SLAM WATERS:

- Big Piney River From Slabtown Access to the Gasconade River
- Big River From Council Bluff Dam to the Meramec River
- Eleven Point River From Thomasville Access to the Arkansas Line
- Elk River Entire river in Missouri
- Gasconade River From Highway Y Bridge in Pulaski County to Highway D Bridge in Phelps County
- Jacks Fork River From Highway 17 Bridge to the Current River
- James River
 From Hooten Town Bridge
 to Highway 412/Highway
 265 at Galena

- Joachim Creek
 From Highway V Bridge
 to Highway A Bridge in
 Jefferson County
- Meramec River
 From Highway 8 Bridge
 to the railroad crossing at
 Bird's Nest Access
- Mineral Fork
 From Highway F Bridge
 in Washington County to
 the Big River
- Osage Fork of the Gasconade River from Skyline Drive Bridge near Orlana in Laclede County to the Gasconade River
- Tenmile Creek
 From Highway B
 Bridge in Carter County
 to Crane Creek

Safeguard landowner goodwill. Never trespass, and always ask permission before floating or wading through private property. Only enter streams at public accesses or with landowner permission.









ost people easily recognize blooming violets, with their unique and easily distinguishable flower setting them apart from other common flowering plants. With flowers typically 1 inch across and with two petals pointing up and three pointing down, these short-statured plants rarely grow more than 6 inches tall. Like dandelions, most violets do not have a true stem — the leaves grow directly from the ground sending up one stalk for each flower. With a few exceptions, most violet species in Missouri flower between March and May.

VIOLETS IN THE WILD

Some violet species grow abundantly in yards and open areas along with other plants broadly considered weeds like henbit, dead nettle, and dandelion. Other violet species are found only in high-quality natural areas. Several species of native violets grow wild in Missouri and fill important roles for wildlife.

Violets play an important role for pollinators. In Missouri, violets are a host plant for most species in a group of butterflies known as fritillaries. Like the dependency of monarch butterflies on milkweeds, the larvae of these fritillaries must feed upon violets in the spring, or they will not survive.

Some pollinators are very specific to a type of habitat and host plant. If the habitat and host plant become rare, so does the pollinator, as seen with the regal fritillary. Fragmentation and loss of prairie habitat due to grassland conversion has limited the availability of tallgrass prairie nectar resources and violets, and likely contributed to regal fritillary declines. The species has become so rare that it is proposed for the endangered species list.











Missouri violet leaves are distinctly longer than wide, while the common violet leaves are wider than they are long.

VIOLETS IN COMMON PLACES

Many of Missouri's violet species are found in common, everyday places like yards, garden edges, or even cracks in the sidewalk. One of these violets is known as Johnny-jump-up (*Viola bicolor*). An easy way to tell this species from the others is by the leaves. Johnny-jump-up has a blue flower with small leaf-like structures that are deeply lobed. The appearance of these structures on a blue violet found in common habitats is an easy way to identify this species.

While Johnny-jump-up is a native species, there are two exotic species that escape from cultivation and appear very similar to Johnny-jump-up. The leaves of wild pansy (*Viola arvensis*) and miniature pansy (*Viola tricolor*) look very similar except they have yellow and purple petals instead of blue.

The other violet species that are found in common places are not as easy to distinguish from each other. Missouri violet (*Viola missouriensis*) and

common violet (*Viola sororia*) can only be distinguished from each other by looking at the leaf shape. Missouri violet leaves are distinctly longer than wide, while the common violet leaves are wider than they are long. Other less common violet species found in the same habitats can easily be confused with Missouri violet and common violet. A good wildflower field guide or social network source, like iNaturalist, are good resources to use when trying to decipher between similar looking species.









VIOLETS IN NATURAL AREAS

Three violets that come with deeply lobed leaves are cleft violet (Viola palmata), bird's foot violet (Viola pedata), and prairie violet (*Viola pedatifida*).

The lobes of cleft violet are much wider than the other two species and it can be found in wooded habitats as well as open places.

Bird's foot violet and prairie violet are more restricted to open places, such as grasslands and glades. The two species are so similar that they are difficult to distinguish from each other.

Prairie violet is more restricted to native prairie remnants while bird's foot violet can thrive in more disturbed areas. It may be for this reason that bird's foot violet has become more popular in the native landscaping industry.

VIOLETS IN RARE HABITATS

Other species are highly specific to habitats now considered rare in Missouri. Like prairie violet, arrow-leaved violet (Viola sagitatta) is largely restricted to prairie remnants. The shape of the base of the leaf is shaped like an arrowhead, which is where the species gets its common name.

Marsh violet (Viola cucullata) is found in the Ozark Region in cool wet places like spring branches, stream edges, and fens. Sand violet (Viola affinis) is primarily found in swamps and bottomland forests of the Missouri Bootheel Region. While sand violet is common in states to the east, the only known populations in Missouri are in a few southeastern counties.



to spring's emerging

color palette.





Cleft violet

VIOLETS OF A DIFFERENT COLOR

Perhaps the violet species that stand out the most are those with flowers that are not a violet color. There are only a few. Yellow violet (Viola pubescens) is found throughout Missouri, mostly in shaded habitats, and is distinguished by its yellow flower.

Pale violet (Viola striata) has a white flower and is restricted to wet areas like bottomland forests, stream banks, and ditches. Both species also have a true stem. Unlike many other violets, these have leaves growing from the base of the plant and on the stem.

Two other violets with white flowers that are rarely seen in Missouri are lance-leaved violet (Viola lanceolata) and smooth white violet (Viola pallens). Lance-leaved violet is found in the Ozarks in wet places like fens, marshes, and wet swales. It is easily distinguished by its white flower and narrow leaves. Smooth white violet is an extremely rare find in Missouri. It is more common to the north and northwest but has only been found in Missouri on a few sheltered sandstone bluff ledges in Ste. Genevieve County.

Whether common or rare, garden variety or habitat specific, violet or some other color, Missouri's many varieties of violets add to spring's emerging color palette.

Recognizing the unique species takes some attention to detail. Even though the leaves usually persist throughout much of the growing season, the eye-catching flowers will usually be gone by June.

> Once their floral display is complete, violets often go unnoticed by humans but continue to play a vital role in our ecosystem by supporting the next generation of pollinators. ▲

State Botanist Malissa Briggler began her full-time MDC career as a grassland botanist in 2007. She and her husband, State Herpetologist Jeff Briggler, live in Callaway County with their three children.



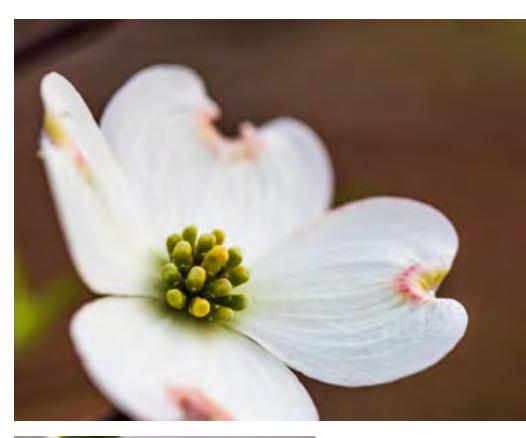
Nature Comes Alive

SPRING REMINDS US OF HOW BEAUTIFUL CHANGE CAN BE

Change can be hard for some people. Whether it's a change of environment, a change in a career, or a change in a relationship, people can have a hard time adjusting. It's a struggle not shared in the natural world. Our flora and fauna seem to flow from one season of life to the next with an ease that's almost rhythmic.

The pulse of that rhythm seems to quicken during spring when everything suddenly comes alive from the quiet of winter. Trees and flowers are in bloom with breathtaking color. Birds, frogs, and insects come together in a harmonious natural choir that fills the air both day and night. Furry mammals scamper about in search of mates in anticipation of the young to come.

Yes, change can be hard, but it also can be incredibly beautiful, wondrous, and magical. Get out and take it all in. What will you discover?





Dogwood Bloom

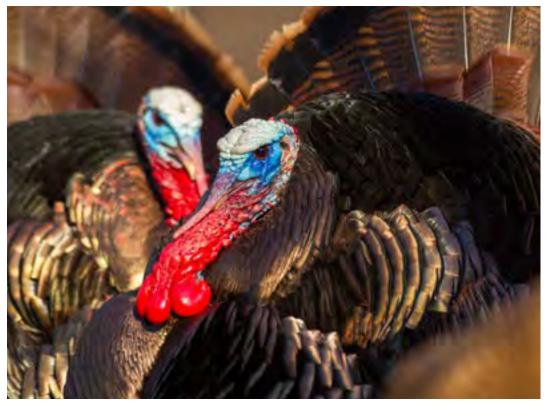
David Stonner 100mm lens • f/4 1/125 sec

Dogwood Leaf David Stonner

100mm lens • f/6.3 1/125 sec







Indian Paintbrush Noppadol Paothong 11-24mm lens • f/18 • 1/200 sec

Henslow's Sparrow Noppadol Paothong 600mm lens • f/11 • 1/500 sec

Wild Turkeys Noppadol Paothong 300-800mm lens • f/7.1 1/500 sec

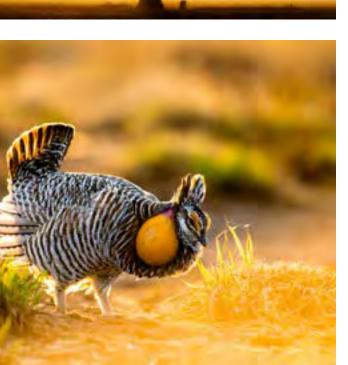




Burr Oak Tree Noppadol Paothong 24-70mm lens • f/11 • 1/125 sec

Ozarks Scenic Riverway

Noppadol Paothong 100-400mm lens • f/8 • 1/160 sec

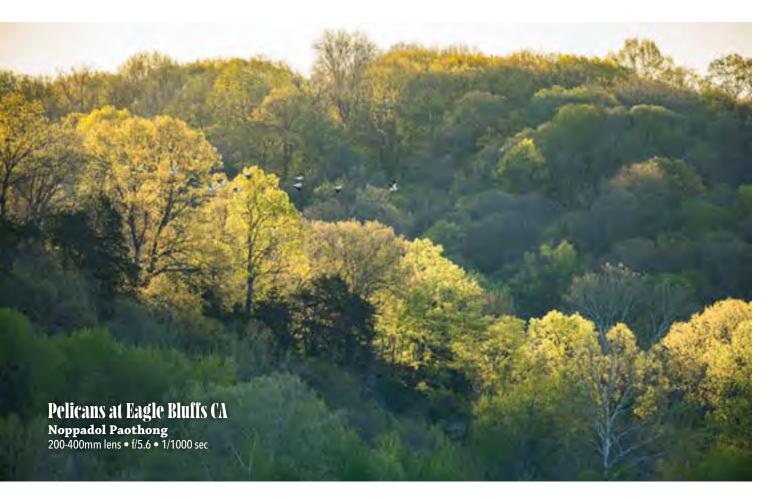




Greater Prairie Chicken Noppadol Paothong 300-800mm lens • f/7.1 • 1/400 sec



Spring Beauty Noppadol Paothong 100mm lens • f/7.1 • 1/160 sec





Red Fox Noppadol Paothong600mm lens • f/8 • 1/100 sec

Red-Shouldered Hawk
Noppadol Paothong
600mm lens • f/8 • 1/1000 sec



Get Outside Mays to connect with nature





Shamrocks in Missouri

Missouri is home to a bit of the luck of the Irish. Clovers and wood-sorrels both have trifoliate leaves, similar to the distinctive three-leaf shamrock. White clover and yellow wood sorrel even have beautiful blooms. Learn more at short.mdc.mo.gov/4fu and short.mdc.mo.gov/4fL.

Wild About Wildflowers

Spring is a great time to learn about Missouri's native wildflowers. MDC has an online Field Guide that can help you along the way short.mdc.mo.gov/4fb.

You can visit a prairie or glade and look for the short, early spring wildflowers like early buttercup, false garlic, hoary puccoon, prairie dogtooth violet, and rose verbena. These flowers bloom before the tall grasses grow.

Or, you can visit a forest or woodland and enjoy the early spring wildflowers - including bloodroot, dutchman's breeches, early saxifrage, harbinger of spring, and mayapple — that have their blooming time before the trees leaf.

It's Not a Weed ... It's a Delicacy

Dandelion flowerheads

This time of year, morel mushrooms get a lot of attention. But there is another common edible plant available right now that is probably more abundant and much easier to spot — the dandelion. Often looked at as an annoying weed, it can also be a delicious edible plant. Fry the flowerheads like you would morels or put them into pancakes. Pick their tender new leaves and have them in a salad. Of course, forage your wild edibles in places where pesticides have not been used. For more information, visit short.mdc.mo.gov/4H8.

Spring Snow

Snow geese are moving through Missouri, especially at national wildlife refuges and other large wetland sanctuaries. Their multitudes are a breathtaking sight. Watch for large V- and W-shaped flocks of snow geese flying overhead, including at nighttime. Their white wings reflect city lights below and look silvery against the night sky. At night, their chorus of squawking yips as they fly overhead can mimic the sound of coyotes.

Natural Events

Here's what's going on in the natural world.



Crayfish become active in



Cabbage white butterflies begin to appear.



Walleye spawning

WHITE BUTTERFLY: RUSS OTTENS, UNIVERSITY OF GEORGIA, BUGWOOD.ORG

Colors of Spring

If you're searching for color in early spring, your best bet is to search the trees. Our native trees are often the first pop of springtime color. **Redbud** trees start blooming in late March and are one of our showiest native blooming trees. Red maples are also blooming, though they are not quite as spectacular. Joining the party is the pawpaw. Its purple-brown flowers appear before the tree puts out its large, broad leaves.

VIRTUAL

POND TO PLATE: FISH CLEANING

Tuesday • March 11 • 12-12:30 p.m. Online only

Registration required by March 10. To register, call 888-283-0364 or visit short.mdc.mo.gov/4H2.

All ages

Any time can be a great time to fish. Now that the weather is turning warm and spring fishing season is in full force, it is time to brush up on those fish-cleaning skills. This session will focus on cleaning skinned fish with an emphasis on catfish and paddlefish. We will look at some of the common equipment needed and common methods of cleaning these fish.

NATIVE PLANTS: ORGANIC GARDENING

Thursday • March 13 • 12-1 p.m.

Online only

Registration required by March 10. To register, call 888-283-0364 or visit short.mdc.mo.gov/4Hu.

All ages

Forty-one percent of insect species across the world have seen steep declines in recent decades and many are currently threatened with extinction. One of the leading causes is pesticides. While usually not the intended target, many native insects fall prey to pesticide use. Do your part to help native insects in Missouri by practicing organic gardening. Learn about organic gardening basics, methods, and solutions in this one-hour, virtual program.



Striped skunks breed through March.



Pickerel frogs emerge from caves.





Want to have fun outdoors, learn about conservation, gain skills, and make happy memories? MDC hosts programs and events statewide — in-person and online. Visit MDC Events to find these programs and more:

- Native plants and landscaping
- Eagle Days
- Hunting and outdoor skills
- Nocturnal animals
- Guided walks and hikes

Go to mdc.mo.gov/events to register for an event near you.

Places to Go

SOUTHEAST REGION

Corkwood Conservation Area

Natural treasures for discerning eyes

by Larry Archer

2 At first glance, Corkwood Conservation Area (CA) may seem underwhelming, but to those with an eye for forestry or geology, it's a treasure in a tiny chest.

Located on 434 acres in Butler County, Corkwood CA is an oasis of bottomland forest surrounded by farm fields that were once part of the Lower Mississippi Alluvial Valley forested wetlands. As one of the area's few remaining remnants of bottomland forest, it hosts a wide variety of trees, including the area's namesake, corkwood.

Because corkwood is rare in Missouri, MDC is managing the area to increase the small, shrublike tree's presence, said MDC Forester Jonathan Vallance.

"We've seen a decline in it over the years, so we're trying to get some more established and set it back to the natural state." Vallance said.

Also from the area's past are its "sand dunes." Far from the desert imagery one might envision, the sand in these dunes lies underneath.

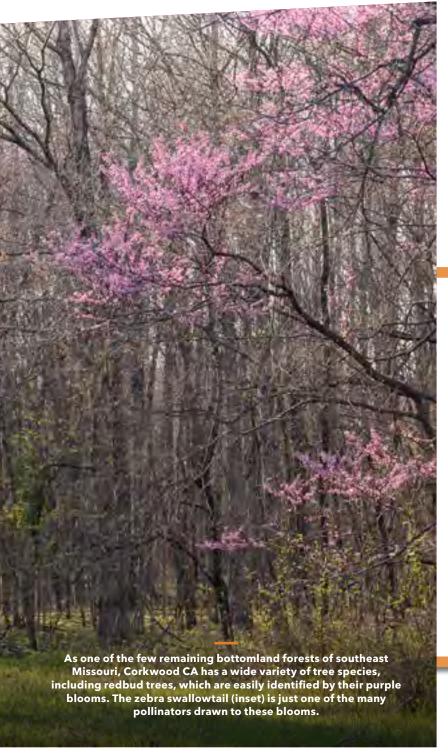
"They basically look like hills or little mounds," he said. "To the right person, it's very interesting, but for the general public just going out there to see nature, they're probably not even going to notice."



Zebra swallowtail

get some migratory birds in there."

> MDC Forester Jonathan Vallance





CORKWOOD CONSERVATION AREA

consists of 433.7 acres in Butler County. From Neelyville, go west 0.5 mile on Highway 142.

36.5572, -90.5313

short.mdc.mo.gov/4HU 573-290-5730

WHAT TO DO WHEN YOU VISIT



Birdwatching The eBird list of birds recorded at Corkwood CA is available at short.mdc.mo.gov/4Hi.



Camping Open camping – walk-in/backpack.



Hunting Deer and turkey
Regulations are subject to annual changes.
Refer to MDC's regulation page online at
short.mdc.mo.gov/Zjw for details. Also
bear, dove, quail, rabbit, and squirrel.



Trapping Special use permit required.

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DISCOVER MO OUTDOORS

Users can quickly and easily find outdoor activities close to home, work, or even while traveling with our free mobile app, MO Outdoors. Available in Android or iPhone platforms at mdc.mo.gov/mooutdoors.



Corkwood leaves

WHAT TO LOOK FOR WHEN YOU VISIT











Greenside Darter

Etheostoma blennioides

Status Common

Length: 2 1/2 to more than 5 1/2 inches

Distribution Ozarks

reenside darters are Missouri's second largest darter in 5.25, to the logperch. They are olive to yellow, with scattered red spots second largest darter in size, next and vertical blotches often arranged in a V or W pattern. Breeding males have bright blue-green on the head and lower fins and green vertical bars. They occur in streams and rivers with swift to moderate current and rocky or gravel riffles. Though most abundant in the Ozarks, they can occur a few places beyond, including Auxvasse Creek, Loutre River (Callaway and Montgomery counties), and the Little Osage and Marmaton rivers (Vernon County).



The greenside

LIFE CYCLE

darter spawns earlier than most Missouri darters, beginning by late March and completing by the end of April. Reproduction is timed to match the bloom of the algae on which this species attaches its eggs. Males occupy and defend territories. Greenside darters can live for five years and are most active in daytime.



FOODS

Greenside darters eat larvae of aquatic insects, including midges, caddisflies, and mayflies. They also eat small crustaceans and snails.



HUMAN CONNECTIONS

Spring and early summer are ideal times to observe fish such as greenside darters. During spawning season, the males possess striking colors, and it is easier to watch them because they tend to be in shallow water. Fish are easily frightened, so approach cautiously. Consider using binoculars and wearing polarized sunglasses to diminish scattered sun reflections from the water's surface.

Outdoor Calendar

FISHING

Black Bass

Impounded waters and non-Ozark streams: Open all year

Most streams south of the Missouri River:

- ► Catch-and-Release: March 1-May 23, 2025
- ► Catch-and-Keep: May 24, 2025-Feb. 28, 2026

Bullfrog, Green Frog

June 30 at sunset-Oct. 31, 2025

Nongame Fish Gigging

Impounded waters, sunrise to sunset: Feb. 16-Sept. 14, 2025

Paddlefish

Statewide:

March 15-April 30, 2025

On the Mississippi River:

March 15-May 15, 2025 Sept. 15-Dec. 15, 2025

Trout Parks

State trout parks are open seven days a week March 1 through Oct. 31.

Catch-and-Keep:

March 1-Oct. 31, 2025

Free MO **Fishing** and MO Hunting Apps

MO Fishing lets you view permits, find great places to fish, and ID your catch. MO Hunting makes



it easy to view permits, electronically notch them, and Telecheck your harvest. Get both in Android or iPhone platforms at short.mdc.mo.gov/Zi2.

For complete information about seasons, limits, methods, and restrictions, consult the Wildlife Code of Missouri at short.mdc.mo.gov/Zib. Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at short.mdc.mo.gov/ZZf.



HUNTING

Bullfrog, Green Frog

June 30 at sunset-Oct. 31, 2025

Covote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

Nov. 1, 2024-March 3, 2025

Deer

Archery:

Sept. 15-Nov. 14, 2025 Nov. 26, 2025-Jan. 15, 2026

Firearms:

- ► Early Antlerless Portion (open areas only): Oct. 10-12, 2025
- ► Early Youth Portion (ages 6–15): Nov. 1-2, 2025
- ▶ November Portion: Nov. 15-25, 2025
- ▶ CWD Portion (open areas only): Nov. 26-30, 2025
- ▶ Late Youth Portion (ages 6-15): Nov. 28-30, 2025
- ▶ Late Antlerless Portion (open areas only): Dec. 6-14, 2025
- ▶ Alternative Methods Portion: Dec. 27, 2025-Jan. 6, 2026

Groundhog (Woodchuck)

May 12-Dec. 15, 2025

Pheasant

Youth (ages 6-15): Oct. 25-26, 2025

Nov. 1, 2025-Jan. 15, 2026

Youth (ages 6-15): Oct. 25-26, 2025

Regular:

Nov. 1, 2025-Jan. 15, 2026

Rabbits

Oct. 1, 2025-Feb 15, 2026

Squirrels

May 24, 2025-Feb. 15, 2026

Turkey

Spring:

- ▶ Youth (ages 6–15): April 12–13, 2025
- ▶ Spring: April 21-May 11, 2025

Fall:

- ► Archery: Sept. 15—Nov. 14, 2025 Nov. 26, 2025-Jan. 15, 2026
- ▶ Firearms: Oct. 1-31, 2025

Waterfowl

See the Migratory Bird and Waterfowl Hunting Digest or visit short.mdc.mo.gov/ZZx for more information.

TRAPPING

Beaver, Nutria

Nov. 15, 2024-March 31, 2025

Special Trapping Season for Private Lands Only: Coyote, Opossum, Raccoon, **Striped Skunk**

March 1-April 14, 2025





Follow us on Instagram
@moconservation

After spending all winter cooped up in a den, mammals — like this striped skunk — are getting out to stretch their legs and greet springtime. Why not follow their lead — at a safe distance, of course. Get outside! What will you discover?

by Noppadol Paothong